

## CLAIMS

1. A feed supplement comprising at least one selected from a lactic acid bacterium belonging to  
5 *Lactobacillus gasseri*, a crushed product of the lactic acid bacterium, a culture of the lactic acid bacterium, a residue of the culture of the lactic acid bacterium, and a treated product thereof.

10 2. The feed supplement according to claim 1, wherein the culture of the lactic acid bacterium is a culture obtainable by inoculating the lactic acid bacterium to a medium containing a whey protein derivative, followed by neutralization culturing.

15 3. The feed supplement according to claim 2, wherein the whey protein derivative is at least one selected from a whey protein concentrate (WPC), a whey protein isolate (WPI) and a hydrolysate thereof.

20 4. The feed supplement according to any one of claims 1 to 3, wherein the treated product is at least one selected from a concentrate, a pasted product, a dried product, a liquid product, a diluted product and a  
25 sterilized product.

5. The feed supplement according to claim 4, wherein the dried product is at least one selected from a spray-dried product, a freeze-dried product, a vacuum-dried product and a drum-dried product.

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6. The feed supplement according to claim 1, which further comprises an excipient.

7. The feed supplement according to claim 6, wherein  
10 the excipient is at least one selected from a starch, a dextrin, a milk component, and a silicic acid.

8. The feed supplement according to any one of claims 1 to 7, wherein the lactic acid bacterium is  
15 *Lactobacillus gasseri* OLL 2716 (FERM BP-6999).

9. A feed composition comprising the feed supplement according to any one of claims 1 to 8 and a feed.

20 10. The feed composition according to claim 9, wherein the feed is at least one selected from a substitute milk, an artificial milk or a starter.

11. A method of improving an intestinal flora, which  
25 comprises administering an effective amount of the feed supplement according to claim 1 to a livestock.

12. A method of preventing a diarrhea, which comprises administering an effective amount of the feed supplement according to claim 1 to a livestock.

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13. A method of enhancing an antioxidant ability, which comprises administering an effective amount of the feed supplement according to claim 1 to a livestock.

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14. A method of increasing a weight, which comprises administering an effective amount of the feed supplement according to claim 1 to a livestock.

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15. Use of the feed supplement according to any one of claims 1 to 8 for improving an intestinal flora of a livestock.

16. Use of the feed supplement according to any one of claims 1 to 8 for preventing a diarrhea of a livestock.

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17. Use of the feed supplement according to any one of claims 1 to 8 for enhancing an antioxidant ability of a livestock.

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18. Use of the feed supplement according to any one of claims 1 to 8 for increasing a weight of a livestock.

19. Use of the feed supplement according to any one of claims 1 to 8 for the manufacture of a feed composition for improving an intestinal flora of a livestock.

5        20. Use of the feed supplement according to any one of claims 1 to 8 for the manufacture of a feed composition for preventing a diarrhea of a livestock.

10       21. Use of the feed supplement according to any one of claims 1 to 8 for the manufacture of a feed composition for enhancing an antioxidant ability of a livestock.

15       22. Use of the feed supplement according to any one of claims 1 to 8 for the manufacture of a feed composition for increasing a weight of a livestock.

20       23. The method according to any one of claims 11 to 14, wherein the livestock is a young livestock during a period of from afterbirth to a weaning stage.

24. The use according to any one of claims 15 to 22, wherein the livestock is a young livestock during a period of from afterbirth to a weaning stage.

25       25. The method according to claim 23, wherein the young livestock is a calf.

26. The use according to claim 24, wherein the young livestock is a calf.